Chapter 1

The choice: Abortion or motherhood?

‘They find themselves pregnant and they have to make a choice...neither option is great...whether they have an abortion or become a mother they have to deal with that choice for the rest of their lives’. Jennifer is a 41 year-old Canberra mother whose two teenage daughters became pregnant within weeks of each other. Melissa, aged 17, and her boyfriend decided to terminate the pregnancy. Marie, aged 16, continued her pregnancy to term and became a mother.

‘We were not surprised when Melissa came home and announced she was pregnant. Nor were we [surprised] that she decided she wanted an abortion...she had always been active socially, had had more boyfriends than we could count and was extremely competitive in sports and in school. But Marie! She was quiet as a mouse...we did not know she had even had sex, and she had only had one boyfriend—for two weeks’ (Jennifer).

Their decisions about their pregnancies were also made differently. Marie suspected she might be pregnant when Melissa came home with the news that she was pregnant. Seeing the support her parents provided for Melissa’s decision to terminate led Marie to suspect that her parents might force her to have an abortion. Especially as she knew that her boyfriend had already left Canberra and was unlikely to be interested in becoming a father. So, she decided not to tell her parents, or to have a pregnancy test to confirm her suspicions. It was four months before her mother finally approached her about her weight gain and took her to a doctor.

‘Mum was so great. I felt really guilty about not telling them, but I knew I did not want an abortion. I didn’t really want to be a mother; I just did not want an abortion’ (Marie).

For both Marie and Melissa, the effect of their pregnancies on their education was considered, as were the attitudes and expectations of their parents and partners. Melissa was due to finish Year 12 and planned to go to university to study veterinary science.
Marie, in Year 11, also wanted to go to university but was not really sure what she wanted to study. ‘I decided to finish Year 11 and 12 and then take a while off until he [baby] is at school. Maybe then I’ll know what I want to do’ (Marie).

This study explores the differences between teenagers who continue a pregnancy and those who choose to terminate and the educational, familial, and individual factors that underlie these differences. No attempt is made in the current research to measure the antecedents of teenage pregnancy, or the consequences of teenage motherhood or abortion. These areas have previously been studied and an overview of that body of literature is presented here.

1.1 Antecedents of teenage pregnancy and parenthood

The notion that teenage sexual behaviour, pregnancy and fertility are considered outside the norm of decent behaviour is evident from the titles of many scholarly works: for example *Dubious conceptions* (Luker 1996), *Precocious pregnancies* (Fischer 1979), *Taking it Lying Down* (Hudson and Ineichen 1991), *Sugar and Spice* (Lees 1993), and *Going all the way* (Thompson 1995).

There have been several studies designed to examine the antecedents of teenage pregnancy or parenthood. Many have found that family type is an important determinant of teenage pregnancy (Hayes 1987; Hockaday, et al. 2000). Hockaday et al. (2000) found that having both biological parents in the home protects against adolescent pregnancy. In addition to family type, the socio-economic status of the family has often been found to be an important predictor for teenage pregnancy (Hockaday, et al. 2000; Maynard 1995). Many measures of socio-economic status have been used including family welfare receipt and parental or maternal education.

Education has been found to be an important determinant of teenage pregnancy. Disruptive schooling and problems at school have been found to be linked with an increased risk of teenage motherhood (Moore, et al. 1998). Self reported grades and school achievement have also been found to differ among teenage mothers and their peers (Moore, et al. 1998). The level of education achieved has also been found to be associated with teenage pregnancy and fertility in Britain (Wellings, et al. 1999). In
addition to educational level, educational aspirations or expectations have also proved to be predictors of teenage pregnancy (Hockaday, et al. 2000; Maynard 1995; Plotnick 1992).

In addition to individual level education characteristics, school level characteristics have been explored. Mayer (1991) examined the effect of the socio-economic status of the school on fertility rates. Students in schools with large proportions of students with high socio-economic status were less likely to have a birth during high school than were those from predominantly low socio-economic status schools. This effect of the school’s socio-economic status was greatest when the individual student was from a low socio-economic status family (Mayer 1991). However, no effect of school level variables on the likelihood of school-aged birth was found by Abrahamse et al. (1988). Moore et al. (1998) were also unable to find associations between school level variables and non-marital school-age motherhood when both Black adolescents and White adolescents are examined together. However, for Whites alone, the students’ perception of school safety was found to be associated with motherhood. Students whose perception was of a low crime level in the school were less likely to have a non-marital birth. The effects of school context, however, did not override family and individual level effects (Moore, et al. 1998).

Family level variables have also been found to be associated with teenage pregnancy, in particular the effect of the pregnancies of sisters. Numerous studies have found that the risk of pregnancy or childbearing is increased among teenagers who have a sister who had a teenage birth (East 1999; Friede, et al. 1986; Goldfard, et al. 1977; Hogan and Kitagawa 1985). In a study of teenagers with a pregnant or parenting sister, East and Shi (1997) found that the quality of the sibling relationship and the extent to which the siblings shared friends was important in determining outcomes for younger sisters. They find that older sisters are important socialisation agents within the family.

Psychosocial factors have been found to differ between pregnant and non-pregnant teenagers. However, studies looking at the self-esteem of pregnant and non-pregnant teenagers, one of the most often studied indicators, have found little or no difference between those who become pregnant and those who do not (Barnett, et al. 1991; Morgan, et al. 1995; Robbins, et al. 1985; Robinson and Frank 1994).
In Britain, Kiernan (1997) found that similar factors to those found in the US differentiated young parents from older parents in a 1958 birth cohort. Young women were more likely to become young mothers if they had high levels of emotional problems in adolescence, a mother who had a child in her teens, and they came from economically disadvantaged backgrounds. High probabilities of parenthood existed for young women whose educational scores deteriorated over time. Kiernan (1997) concludes that educational attainment was the most important factor distinguishing young from older parents.

This body of research has consistently found that young women who become pregnant come from less advantaged backgrounds, accompanied by the relative disadvantage this entails in terms of education and opportunities.

1.2 Consequences of teenage motherhood

In 1968 Campbell (1968) stated that

The girl who has an illegitimate child at the age of 16 suddenly has 90% of her life’s script written for her. She will probably drop out of school…, not be able to find a steady job…; she may feel impelled to marry someone she might not have otherwise chosen. Her life choices are few, and most of them are bad (Campbell 1968: 238).

These negative consequences reported by Campbell have been found in many cross-sectional studies. Many of these ‘consequences’ are the same as the ‘causes’ found in section 1.1. With the advancement in statistical modelling methods and the availability of longitudinal data, often of large scale and at the national level, researchers in the US have been able to control for the difference in young mothers’ backgrounds.

Three important studies have used different approaches to do this. Geronimus and Korenman (1992) compared sisters who had first births at different ages. They found that the negative effects of teenage childbearing had been dramatically overstated and that the effects were negligible or non-existent. They concluded that the consequences of teenage childbirth might be due to factors that were the reason that the birth occurred. When Hoffman and colleagues (Hoffman, et al. 1993) replicated this study with other sources of data they found that the differences between sisters were not in fact zero, but they were smaller than previous research had suggested.
Another new approach was that taken by Grogger and Bronars (1993), who compared the socio-economic consequences of teenage motherhood between single-first-births and twin-first-births. The results of this analysis suggest that only one of the socio-economic consequences tested for white teenagers, welfare receipt, persisted until the child was aged between 10 and 13. They conclude that there are negative consequences associated with teenage childbearing, but the effects are modest.

Another ‘natural experiment’ involved the comparison of mothers who had become pregnant at age 17 or younger with young women who had become pregnant at the same age but had miscarried (Hotz, et al. 1999). The effects of the birth were examined between the ages of 16 and 30. The results of this comparison suggested that, by the late 20s, the teenage mothers were better off on many items than were those who had miscarried, though they were more likely to have more births and were single for longer.

These three studies have made important inroads into the methodology of studying the consequences of teenage motherhood. They have also paved the way for continued efforts in this area. Their results suggest that there are negative consequences associated with teenage motherhood, but these are much smaller than previously thought.

The social support received by young mothers has also received research attention (Cooley and Unger 1991; Musick 1994). A Canadian study has found that living with parents after a teenage birth leads to more stable financial consequences and increases the chance of higher educational returns (Sorenson and Grindstaff 1995). Various studies have also examined the effect of partner support and contact with the partner. They find that support from the partner has a positive effect on the financial position of the mother if they are living together or married (Furstenberg 1987; Hardy, et al. 1989; Roye 1994). It has also been found that partner support is associated with enhanced outcomes for the child (Unger and Cooley 1992), where the father and child have close or continuing contact (Furstenberg 1987), or if the mother-father relationship is good (Lamb and Elster 1985). However, others have found a neutral or negative effect between partner support and child outcomes (Musick 1994; Unger and Wandersman 1988).
Other studies have examined other aspects of adolescent parenting. Higginson (1998) has examined the competitive nature of teenage parenting and finds that young mothers in support programs compete to be the ‘best’ mother by providing material possessions, by comparing the physical and cognitive development of their children and in their general parenting knowledge. The patterns of breastfeeding among teenage mothers has also been explored (Ineichen, et al. 1997).

1.3 Consequences of teenage abortion

While the consequences of teenage motherhood have received much research attention, studies of the consequences of teenage abortion have been few. This is in part due to the nature of these consequences, and of abortion itself. For motherhood it is possible to observe and even quantify aspects of young women’s lives, such as health, housing, income, education, relationships etc. For abortion the consequences are much less tangible, and are generally psychological in nature.

Psychologists have focused on psychological adjustment and coping, post-abortion. Most argue that women who freely choose to terminate a pregnancy are unlikely to experience negative psychological responses (Adler 1975; Adler, et al. 1992; Bracken, et al. 1974). Studies have also been conducted to assess the effect on children of mothers who were denied abortion. Most notably, the work by David and colleagues (David, et al. 1988) found that children who were unwanted, and their mothers denied abortion, displayed significantly poorer outcomes in terms of physical and mental health, intellectual functioning and education, and in their ability to form peer relationships.

The psychological impact of abortion on teenagers has received less research attention. Existing research has indicated that there are no negative psychological effects for adolescents receiving abortion (Cvejic, et al. 1977; Hatcher 1976; Zabin, et al. 1989). Zabin et al. (1989) found that teenagers receiving abortion fared better than did those who carried their pregnancies to term. More recently Pope et al. (2001) found that there was no difference in psychological response to abortion for women aged 14–17 and those aged 18–21. They also found that many aspects of psychological functioning improved after abortion, such as lower levels of depression, increased positive emotions and decreased negative emotions (Pope, et al. 2001). Thus, abortion does not appear to
have lasting negative psychological consequences for teenagers. However, it can be assumed that abortion will affect each woman differently with differing levels of grief, guilt and regret.

The impact of abortion on total fertility has been calculated in various settings (Foreit and Nortman 1992; Frejka 1985; Krishnan and Krotki 1999; Levine, et al. 1999). Most authors suggest that current levels of abortion in most societies do not have much impact on total fertility. Frejka (1985) suggests that for abortion to rival contraception in its impact on fertility, a rate of three abortions per woman would have to be reached.

In Australia, abortion does not, or need to, carry the risk of death. Prior to the relaxation of abortion laws in the early 1970s, deaths due to haemorrhage, air embolism and infection post-abortion were reported. Of the 275 reported cases of maternal mortality in 1964–1966, 45 were attributed to abortion (NHMRC 1970). This decreased to 19 in the period 1970–1972, of which 15 were due to illegal abortion and 4 due to ‘legal’ abortion (NHMRC 1975). In the period 1988–1990 there were no deaths due to abortion (NHMRC 1993). It has been estimated that the risk of death is approximately ten times higher for childbirth than for abortion (AGI 2000).

1.4 Overview of the thesis

As Jennifer said, whatever choice is made there are life-long consequences for teenagers. Becoming a mother has personal consequences related to the new responsibility of a baby, financial hardship, disruption of life plans and reduced repartnering opportunities for single women. Young women who choose abortion undergo a surgical procedure and may suffer feelings of guilt or remorse. The aim of this research, then, is to examine the different characteristics that lead some young women to terminate a teenage pregnancy and others to become young mothers. Chapter 2 explores the resolution of teenage pregnancies in Australia throughout the 20th century. It examines the changing incidence of birth, both within and outside marriage, adoption and abortion. These changes are set within the changes in legislation and social norms of the period.

Chapter 3 presents an overview of previous research on teenage pregnancy in Australia. It makes particular reference to the lack of research on abortion conducted in this
country, and reviews some studies of pregnancy resolution decisions for teenagers. Finally, some theoretical considerations are presented along with an adaptation of Bronfenbrenner’s Ecology of Human Development (1979) which will be used as a framework for understanding the context of pregnancy resolution decisions in this thesis.

Due to the lack of existing information on teenage pregnancy and its resolution in Australia, it was necessary for data specific to this purpose to be collected. Two surveys were conducted in New South Wales and the Australian Capital Territory in 1998. These surveys were conduced among young mothers and young women presenting for abortion. The design and content of these surveys is discussed in Chapter 4. This chapter also discusses other data sources used in the thesis and the statistical techniques employed to explore pregnancy resolution.

Chapter 5 provides an overview of social and pregnancy-related indicators for New South Wales and the Australian Capital Territory. Various characteristics are presented in map form to describe the regional variations of Australia’s most populous state and the territory containing the country’s capital. Background characteristics of women who participated in the data collection are then presented, organised in terms of characteristics of the pregnancy and characteristics of the respondent at the time of conception.

Before becoming pregnant, young women will have diverse experiences with regard to sexual activity and contraceptive use. Chapter 6 describes the experience of women in the survey. Issues covered include sexual debut, sexual force and negotiation, contraceptive use and sexual histories.

Building on Chapter 5, Chapter 7 examines factors related to education, Chapter 8 explores the influence of significant others and Chapter 9, the psychosocial characteristics of young pregnant women.

Chapter 10 provides a summary of the results found in this study. It uses the proposed framework to examine the various settings explored and how they affect pregnancy resolution. Limitations of this research and suggestions for future research are also discussed in this chapter.
Chapter 2

Teenage pregnancy in Australia

The conception of teenage pregnancy as a social problem reflects a history rich in individual, familial and institutional experiences. Falling teenage fertility is usually set only against the backdrop of high fertility for women of all ages in the years between World War II and the reinterpretation of abortion law in the early 1970s. However, teenage fertility rates are at similar levels in the 1990s to those in the 1930s and only slightly lower than they were in the first two decades of this century. Discussion of teenage pregnancy is also centred on motherhood, that is ‘young mothers’ and very rarely examines the roles of abortion and adoption when looking at changes in teenage pregnancy. This century has seen a dramatic change in the pregnancy resolution decisions of teenagers, alongside changes in the institutions that influence those decisions and the forms and level of control over the individual’s decision.

Data used in this chapter are drawn from various sources. Fertility data are drawn from publications of the Australian Bureau of Statistics (ABS) namely ‘Births, Australia’ and the ‘Official Year Book of the Commonwealth of Australia’ prior to 1963. The Health Insurance Commission (HIC) has provided unpublished data from 1984 on the number of terminations claimed under the Medicare system by age. The Australian Institute of Health and Welfare (AIHW) also hold data on terminations performed in hospitals and has provided data for the years 1993 to 1998. Data on adoptions are drawn from ‘Adoptions Australia’ published by the Australian Institute of Health and Welfare.

This chapter provides a background on the state of teenage pregnancy in Australia. It explores, where possible, the demographic and social history of teenage pregnancy in Australia in the 20th century, focusing on four outcomes of adolescent pregnancy, that is, birth and marriage, birth and single motherhood, birth and adoption, and abortion.
2.1 Trends in fertility

The fertility of Australian teenagers in the 1990s is not high by international standards and has been relatively stable in recent years. Compared with other OECD countries, Australia’s teenage fertility rate lies in the middle range (Table 2.1). The proportion of total fertility occurring below age 20 ranged from two per cent in the Netherlands to 12 per cent in the United States of America, with Australia at 6 per cent.

Table 2.1: Teenage fertility rates, selected OECD countries, mid–1990s

<table>
<thead>
<tr>
<th>Country of birth</th>
<th>Year</th>
<th>Teenage fertility rate (TnFR)</th>
<th>Total fertility rate (TFR)</th>
<th>% of TFR attributed to women aged 15–19</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>1995</td>
<td>44.9</td>
<td>1.8</td>
<td>12.4</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>1996</td>
<td>29.7</td>
<td>1.7</td>
<td>8.6</td>
</tr>
<tr>
<td>New Zealand</td>
<td>1992</td>
<td>33.8</td>
<td>2.1</td>
<td>7.9</td>
</tr>
<tr>
<td>Canada</td>
<td>1995</td>
<td>24.5</td>
<td>1.6</td>
<td>7.5</td>
</tr>
<tr>
<td>Australia</td>
<td>1995</td>
<td>20.5</td>
<td>1.8</td>
<td>5.6</td>
</tr>
<tr>
<td>Germany</td>
<td>1996</td>
<td>9.6</td>
<td>1.3</td>
<td>3.6</td>
</tr>
<tr>
<td>Sweden</td>
<td>1996</td>
<td>7.8</td>
<td>1.6</td>
<td>2.4</td>
</tr>
<tr>
<td>France</td>
<td>1993</td>
<td>7.9</td>
<td>1.7</td>
<td>2.4</td>
</tr>
<tr>
<td>Netherlands</td>
<td>1996</td>
<td>5.6</td>
<td>1.5</td>
<td>1.8</td>
</tr>
</tbody>
</table>

1. Births to women aged <20 per 1,000 women aged 15–19. For calculation see Chapter 4.
2. Births per woman. For calculation see Chapter 4.
Source: (United Nations 1999).

In 1998 there were 11,849 children born to women under the age of 20 resulting in an age-specific fertility rate for 15–19 year olds (TnFR) of 18.5 (ABS 1999: 18, 29: Table 2.3 & Table 2.19). The teenage fertility rate differs greatly between Australia’s states and territories with the extreme case being the Northern Territory (68.7). This high rate reflects the high fertility of young indigenous women (Table 2.2) and their relative dominance in the Northern Territory data. It is also apparent from Table 2.2 that the fertility rate of teenagers has been ordered within the states and territories in the same way throughout the latter part of this century. That is, teenage fertility had been consistently higher in the Northern Territory than in other jurisdictions and other rankings have remained the same.

The notion espoused in recent years that women are not physically mature enough to have children in their teens was not one that existed in Australia at the beginning of the 20th century. In fact the falling birth rate at that time prompted members of the New South Wales Parliament to comment that ‘girls were ready for motherhood at fourteen
because, as a result of Australia’s subtropical climate, they matured earlier here than in other parts of the world’ (Siedlecky and Wyndham 1990: 18).

Table 2.2: Teenage fertility rates, States and Territories, 1948–1998

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>New South Wales</td>
<td>33.0</td>
<td>39.2</td>
<td>50.3</td>
<td>29.6</td>
<td>20.5</td>
<td>18.6</td>
</tr>
<tr>
<td>Victoria</td>
<td>27.1</td>
<td>35.0</td>
<td>41.6</td>
<td>23.4</td>
<td>14.2</td>
<td>12.4</td>
</tr>
<tr>
<td>Queensland</td>
<td>34.9</td>
<td>40.3</td>
<td>55.9</td>
<td>36.9</td>
<td>24.0</td>
<td>23.4</td>
</tr>
<tr>
<td>Western Australia</td>
<td>32.8</td>
<td>42.7</td>
<td>54.0</td>
<td>32.8</td>
<td>23.9</td>
<td>20.9</td>
</tr>
<tr>
<td>South Australia</td>
<td>30.3</td>
<td>42.1</td>
<td>45.0</td>
<td>27.3</td>
<td>20.2</td>
<td>15.3</td>
</tr>
<tr>
<td>Tasmania</td>
<td>50.8</td>
<td>49.8</td>
<td>64.7</td>
<td>43.7</td>
<td>24.7</td>
<td>24.2</td>
</tr>
<tr>
<td>Australian Capital Territory</td>
<td>61.8</td>
<td>38.7</td>
<td>41.3</td>
<td>19.9</td>
<td>12.6</td>
<td>11.9</td>
</tr>
<tr>
<td>Northern Territory</td>
<td>60.6</td>
<td>104.3</td>
<td>102.2</td>
<td>98.5</td>
<td>77.5</td>
<td>68.8</td>
</tr>
<tr>
<td>Australia</td>
<td>32.1</td>
<td>39.2</td>
<td>48.9</td>
<td>29.9</td>
<td>20.3</td>
<td>18.5</td>
</tr>
</tbody>
</table>

Sources: Births, Australia (ABS Cat. no. 3301.0) (for years 1978, 1988, 1998 )

Fertility in the Australian colonies had been falling throughout the last two decades of the 19th century (Hicks 1978) influenced by a drought, a depression, and an increasing awareness and use of contraceptives among women of the colonies. Allen (1982) argues that abortion, infanticide and baby farming were also important factors in the decline of the birthrate, particularly for the working class for whom contraception may have been too expensive. In addition, Allen posits that the growing use of methods to avoid motherhood illustrates Australian women ‘successfully determining their own fertility and thus avoiding the burdens of biological reproduction and childcare imposed upon them by patriarchal gender relations and the sexual division of labour within the family’ (Allen 1982: 112).

The beginning of the 20th century was marked by increasingly moralistic attitudes towards reproduction and the laying of blame for the use of contraception and abortion at the feet of women. In 1903 the New South Wales Parliament instigated a Royal Commission into the Decline of the Birth-Rate to examine the reasons for declining fertility and to ‘prevent the deterioration of our race and the demoralization of our young people’ (Hicks 1978: 4). Hicks argues that the Royal Commission’s report was concluded by a ‘piece of rhetoric masquerading as a conclusion’ (Hicks 1978: 18) and that the inquiry ‘was less a rational pursuit of understanding than a ritual expressing moral reaction to social change’ (Hicks 1978: 18). The report of the Royal Commission found motives for family limitation were based on the selfishness of women (Hicks 1978: 23). One current advantage of the royal commission is that it allows us (in
to see the types of methods of contraception being used and that both contraception and abortion were becoming more accessible.

The teenage fertility rate remained around 26 births per 1,000 women between 1932 and 1946 (Figure 2.1). This period was characterised by low fertility due to depression and war. The rate rose dramatically from 1947 to 1960, levelled off for a few years and rose again in the late 1960s to reach a peak of 55.5 in 1971.

Figure 2.1: Teenage fertility and total fertility rates, Australia, 1921–1998

In 1961 oral contraceptives (The Pill) became available for use by Australian women. The total fertility rate started to decline after this time. However, the teenage fertility rate continued to rise. The introduction of the pill did not have an impact on teenage fertility as members of the medical profession were disinclined to prescribe the pill for unmarried women or minors even if over the age of consent (Siedlecky and Wyndham 1990: 126).

Debate was still raging into the early 1970s when Dr Kenneth Grigg was prompted to express his views on prescribing the pill to minors in the Medical Journal of Australia.

‘I have felt constrained on occasion to express the point of view to these young ladies that I did not do a six years medical course merely for the sake, inter alia, of providing the young bucks with a means of having their pleasure without responsibility’ (cited in Siedlecky and Wyndham 1990: 127).
It is difficult to assess the effect of the increasing availability of contraception to teenagers in the 1970s and 1980s as abortion became easier to access also. While not being decriminalised, the interpretation of what constituted a ‘legal abortion’ was changed in New South Wales in 1971\(^1\).

Prior to 1971 the teenage fertility rate took 24 years to increase by 23 births per 1,000 women. After 1971 it took just 6 years to reduce by the same amount. The dramatic drop in the teenage fertility rate after 1971 suggests a greater use of abortion than contraception, as contraception was still not easily accessed. By 1987 the teenage fertility rate had fallen to 20.6 where it remained roughly constant until 1996 except for a small rise in 1990 and 1991 (Figure 2.1). The final two years of the century saw a further small decline in the rate of teenage fertility (Appendix Table A2.1).

**Fertility of indigenous teenagers**

The Australian Bureau of Statistics reported indigenous age-specific fertility rates for only three Australian states in 1996 as reporting in the other jurisdictions were found to be less than 90 per cent complete or, as in the case of the Australian Capital Territory, the numbers of births were small. Indigenous teenage fertility rates in 1996 were 79.2 in South Australia, 110.9 in Western Australia and 139.6 in the Northern Territory (ABS 1997: 56). These rates indicate that indigenous women are far more likely to become a mother in their teens than are non-indigenous women.

Another indicator of the young age structure of indigenous fertility can be seen in the proportion of births attributed to women under age 20 and age 25. The proportion of indigenous children born to indigenous women aged under 20 ranged from 19 per cent in South Australia to 28 per cent in the Northern Territory, compared to 5 per cent for all Australian children (Table 2.3). Over half of all children born to indigenous mothers are born before their mothers turn 25.

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\(^1\) Changes in abortion law are discussed in section 2.4.
Table 2.3: Selected fertility measures of indigenous women by age of mother, 1996

<table>
<thead>
<tr>
<th>Age group of mother</th>
<th>Indigenous</th>
<th>South Australia</th>
<th>Western Australia</th>
<th>Northern Territory</th>
<th>Australia</th>
</tr>
</thead>
<tbody>
<tr>
<td>15-19</td>
<td></td>
<td>79.2</td>
<td>110.9</td>
<td>139.6</td>
<td>20.1</td>
</tr>
<tr>
<td>20-24</td>
<td></td>
<td></td>
<td>152</td>
<td>411</td>
<td>400</td>
</tr>
<tr>
<td>25+</td>
<td></td>
<td>187</td>
<td>572</td>
<td>493</td>
<td>193,348</td>
</tr>
<tr>
<td>Age not stated</td>
<td></td>
<td>4</td>
<td>1</td>
<td>7</td>
<td>165</td>
</tr>
<tr>
<td>Total births</td>
<td></td>
<td>423</td>
<td>1,272</td>
<td>1,251</td>
<td>250,363</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage of children born to mothers aged under 20</td>
<td>19.1</td>
</tr>
<tr>
<td>Percentage of children born to mothers aged under 25</td>
<td>55.4</td>
</tr>
<tr>
<td>Births to indigenous mothers as a proportion of all births</td>
<td>2.2</td>
</tr>
</tbody>
</table>

1. Includes births/confinements to women aged 14 and under.
2. Missing cases are not included in the total when calculating percentages based on age.


The indigenous population only constitutes 1.7 per cent of the Australian population (ABS and AIHW 1997). Thus, indigenous fertility does little to affect overall Australian fertility rates. However, in the Northern Territory, the proportion of births to indigenous mothers was recorded as 35 per cent in 1996. This is high enough for indigenous fertility to affect the Northern Territory fertility rates, in particular the teenage fertility rate as indicated in Table 2.2

2.2 Nuptiality

The majority of teenage births occur outside marriage. In 1998 less than one per cent of nuptial confinements, and 15 per cent of ex-nuptial confinements were to teenagers. The corresponding figures in 1908 were 4 per cent and 27 per cent. The highest proportion of teenage ex-nuptial confinements as a proportion of total ex-nuptial confinements (42 per cent) was in 1973 (Figure 2.2). As is apparent in Figure 2.2 the proportion of all ex-nuptial confinements to teenagers was highest in the peaks years of teenage fertility, namely the late 1920s and the 1960s and 1970s.

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2 Births to indigenous mothers do not reflect total indigenous births as the child may be born to a non-indigenous mother and an indigenous father (Gray 1997).
While Figure 2.2 charts the changes in teenage confinements in relation to total confinements between 1908 and 1998, changes in the patterns of nuptiality are even more striking when examined for teenage confinements alone. As evident in Figure 2.3, there has been a complete reversal of the nuptiality of children born to teenage mothers. The proportion of teenage confinements to unmarried teenagers increased progressively from 15 per cent in 1957 to 90 per cent in 1998 (Figure 2.3).

There are two distinctive ‘lumps’ in the pattern of the nuptiality of teenage fertility in the 20th century. These occur during 1917–1919 and 1943–1946 (Figure 2.3). Both of these periods correspond to times of war. There are two explanations for this rise in ex-nuptiality in periods when fertility was low. First, there is the possibility of pregnancy before the partner goes into service, and possibly death, before a marriage had time to occur. Second there is the presence of overseas servicemen in Australia during WWII.

A confounding feature of this issue is the fact that births recorded as nuptial may have been conceived prior to marriage. These marriages have often been termed ‘shot-gun’ weddings as they were typically arranged quickly so that the ‘condition’ of the bride was not apparent on her wedding day. Throughout Australia’s history, shot-gun weddings were commonly used to resolve teenage pregnancies suggesting a morality
that was more concerned with illegitimacy than the age of the expectant mother and with strong parental and societal controls over the decision.

**Figure 2.3: Teenage confinements by nuptiality 1908–1998**

Sources: Appendix Table A2.2.

In 1917 Tullie Wollaston was prompted to write a piece calling for compulsory marriage for pregnant single women after seeing the trial of a 17 year old woman charged for poisoning her baby and being amazed at the absence of the man responsible.

It is only too true we cannot make men just by outward laws, however wise and righteous, but it is only through them that we can properly express the scorn in which we hold the dastard and the coward, and especially that coward who strikes in the dark and leaves the helpless to bear alone the penalty of his guilt.

I speak, of course, of the champion skulker of the earth—the man who betrays a girl, and leaves her and her hapless babe to their pitiable fate (Wollaston 1917: 6).

A thorough reading of Wollaston’s essay makes it apparent that Wollaston’s concern was for the child, not necessarily the young woman, and she felt that men should be legally held accountable for their sexual conduct. Through compulsory marriage she felt that no child would have to suffer the indignity of being illegitimate (Wollaston 1917). Single parenthood, per se, was not such a problem. Wollaston recognised that many of these compulsory marriages would fail but the status of the child and the woman’s virtue would remain intact.
The focus on legitimacy, rather than age, was carried through until about the 1960s. In 1961 the Commonwealth Government raised the minimum age of marriage for women to 18 years with the express purpose of reducing the number of marriages of young pregnant women and stated that pregnancy was not a good enough consideration for 'putting aside' the limit (Swain and Howe 1995: 50). Around this period public opinion was moving against the idea of marriage due to pregnancy because of the high failure of many of these marriages (Swain and Howe 1995: 50, 57-58). However, Swain and Howe (1995: 58) argue that the stigma attached to single motherhood was still strong enough to encourage marriage and that a ‘divorced woman held a higher status in society than a single mother’ (Swain and Howe 1995: 58).

Throughout the 20th century, parents were instrumental in the organisation of most shotgun weddings (Swain and Howe 1995). During the middle part of the century, the methods employed by parents to bring about marriage are said to have changed. Instead of anger and force, Swain and Howe (1995) argue that parents were more likely to offer incentives to marriage, such as housing, furniture or money. Carmichael’s (1996) work on nonmarital pregnancy in Australia has shown that during the 1950s and 1960s the proportion of brides aged 16–19 who were pregnant fluctuated between 35 and 45 per cent, dropping to approximately 25 per cent in 1992 (1996: 297). While the proportion of brides who were pregnant declined, the increasing age at marriage meant that the number of young women who were marrying also declined.

Another indicator of the extent of shot-gun marriages is the duration of marriage at time of birth. Carmichael (1996: 297-298) divides marital first confinements occurring in the first seven months of marriage into marriage durations zero to three months, four to five months, six months and seven months. These divisions are intended to distinguish confinements where conception occurred soon before marriage in anticipation of marriage, from those where the marriage occurs due to the confinement. Previously, marriages where a confinement occurred at marriage duration zero to three months and four to seven months had been termed ‘shot-gun’ and ‘anticipatory’ (Spencer 1969).

The proportion of teenage marital first confinements occurring at six or seven months duration increased in the first half of the century whereas the proportion occurring at zero to three months duration declined steeply until 1960 (Carmichael 1996: 297). Carmichael (1996: 297) suggests these trends indicate a move away from the forced or
shot-gun wedding towards a situation where marital childbearing was occurring in more committed relationships in anticipation of marriage.

The proportion of teenage confinements to married women changed direction at the beginning of the 1960s (Figure 2.3) as more and more young unmarried women remained unmarried throughout their pregnancies. In 1973 the Commonwealth government introduced the Supporting Mothers Benefit allowing women having ex-nuptial children to receive income support. Previously income support for single women was only available to widows and for some women who had been deserted. While not introduced specifically to assist single mothers under 20, the lack of an age stipulation on this payment meant that for the first time pregnant teenagers could choose to continue a pregnancy, unmarried and without the financial assistance of their families.

The nuptiality of indigenous births varies greatly between the States and Territories. In South Australia and Western Australia the percentages of all indigenous births in 1996 occurring outside formal marriage were 82 per cent and 85 per cent respectively (ABS 1997: 58-60). In the Northern Territory the proportion was 94 per cent (ABS 1997: 58-60). Thus, fertility does not appear to be connected to the formal marriage of indigenous parents and it can be assumed that, for teenagers, the proportion of children born outside formal marriage is close to 100 per cent.

In summary, the 20th century has seen dramatic change in the nuptiality of teenage births. In the second half of the century the proportion of births occurring within marriage plummeted. This change occurred in a society in which attitudes towards single parenthood and forced marriage were rapidly changing and the age of marriage was increasing. Institutional changes, such as in eligibility for welfare payments, and in minimum legal marriage ages, also allowed for young pregnant women to choose to give birth and support themselves and their children outside of marriage.

### 2.3 Trends in adoption

After having the birth an alternative to keeping the baby is adoption. Control of adoption was taken over by the state when it was legalised at the national level in 1928. By the late 1930s the view of the adoptive parents as ‘benevolent’ and the relinquishing mother as immoral and tainted was emerging. During the 1950s this view became
embedded in social work in Australia (Summers 1994; Swain and Howe 1995). Social workers encouraged ‘girls’ to give up their children so that they might regain their place in society. Unmarried young mothers were encouraged after adoption to ‘forget about it and get on with your life’. In the 1950s and 1960s, adoption became the institutional alternative to the shot-gun marriage.

More recently, much research attention has been paid to relinquishing mothers. Adoption has been likened to child abuse (Murdoch 1996) and the grief felt by relinquishing mothers has been compared to that of women who miscarry or lose an infant (Winkler and van Keppel 1984). The focus of research attention has been primarily on the effect of adoption on both mother and child, and the re-establishment of contact between relinquishing parents and children (Benet 1976; Inglis 1984; Marcus 1981; Picton and Bieske-Vos 1982; Triseliotis 1973; Winkler and van Keppel 1984).

Australian data on adoptions resulting from teenage pregnancies are less than complete. Adoption data are collected by state and territory government agencies and collated nationally by the Australian Institute of Health and Welfare. In some years the age of the birth mother has been published. However, the high proportion of unknown age makes these data difficult to rely on. Thus only the total number of adoptions are presented here. Over the past 30 years adoption has all but disappeared as an option for unwanted pregnancies in Australia (Figure 2.4). The number of adoptions in Australia peaked in the early 1970s, corresponding to the peak in fertility in that period. The number of adoptions fell from 9,798 in 1971–72 to 543 in 1998–99. While fertility also declined over this period, it remained relatively stable throughout the latter two decades, whereas adoptions continued to decline.

Throughout this period there was also a change in the relationship between teenage pregnancy and adoption. In 1966–67, 51 per cent of adoptions in New South Wales were to children of teenagers, by 1994–95 for all of Australia this figure was 21 per cent. By the late 1990s there were less than 35 local placement non-relative adoptions to children of teenage mothers in Australia (AIHW 2001).
While there are many problems with these data in terms of their usefulness for examining the age of the mother, there is a pattern indicating that adoption has virtually disappeared as an option for resolving teenage pregnancy.

### 2.4 Trends in abortion

Another option for pregnant teenagers is abortion. While legislation surrounding abortion was not relaxed in Australia until the early 1970s, pregnancies have been terminated in Australia since settlement. In the earliest days of the colonies, convict women working as domestic servants could be imprisoned for becoming pregnant (Siedlecky and Wyndham 1990), a policy which undoubtedly forced a number of abortions. The number of abortions performed in Australia in the 20\textsuperscript{th} century is unknown, however it has been estimated that 5,000 abortions were performed in Melbourne in 1941 (Siedlecky and Wyndham 1990: 75). A study conducted in 1956 found that ‘women knew more about this [abortion] than they knew about contraception’ (cited in Swain and Howe 1995: 47). Although legislation surrounding termination of pregnancy was liberalised at the beginning of the 1970s, the legal position of abortion in most of Australia remains somewhat unclear (Pringle 1997).
Changes in abortion law

The laws relating to abortion in Australia are different in each State and Territory but essentially they allow for termination of pregnancy to save the life of the mother. These laws were initially modelled on the UK *Offences against the Person Act 1861*. The laws discussed here pertain to New South Wales unless otherwise indicated. The New South Wales *Crimes Act 1990* (ss.82-84) states that:

82. Whosoever, being a woman with child, unlawfully administers to herself any drug or noxious thing; or unlawfully uses any instrument or other means, with intent in any such case to procure her miscarriage, shall be liable to penal servitude for ten years.

83. Whosoever: unlawfully administers to, or causes to be taken by, any woman, whether with child or not, any drug or noxious thing; or unlawfully uses any instrument or other means, with intent in any such case to procure her miscarriage, shall be liable to penal servitude for ten years.

84. Whosoever unlawfully supplies or procures any drug or noxious thing; or any instrument or thing whatsoever, knowing that the same is intended to be unlawfully used with intent to procure the miscarriage of any woman, whether with child or not, shall be liable to penal servitude for five years. (Cica 1991)

In 1971 a New South Wales District Court ruled that abortion was ‘lawful’ if there were ‘any economic, social or medical ground or reason’ that abortion was required to avoid ‘serious danger to the pregnant woman’s life or to her physical or mental health’ (Cica 1998: 3). This ruling has been known as the Levine ruling. In 1994 the Levine ruling was re-interpreted in a restrictive way by a Supreme Court judge. The judge would not award damages for an unwanted pregnancy on the basis that it would have been a crime for her to obtain an abortion (Cica 1998). This finding was overturned on appeal by the New South Wales Court of Appeal with a new interpretation of the law, called the Kirby ruling. This ruling goes further than the Levine ruling in that it allows for doctors to take into account possible danger to the woman’s mental and physical health after the birth of the child, not just during the pregnancy (Cica 1998).

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3 A woman was claiming that a medical clinic was negligent in failing to diagnose her pregnancy in time for her to have had an abortion.
The law relating to the consent of minors to termination of pregnancy is equally unclear. Under the New South Wales *Crimes Act 1990* (s71) a woman aged under 16 years cannot give consent to sexual intercourse. However, the age of consent for surgical procedures is not bounded by law (Sefton 1992: 3). Sefton (1992) states that public hospitals in New South Wales allow surgery without parental consent to patients aged 16 or older. However, under the New South Wales *Minors (Property and Contracts) Act 1970* (s49) contracts can be made between dentists and doctors and mature minors aged 14 or older. This law has never been tested but most private doctors and clinics will perform abortions on women aged between 14 and 16 years without the consent of their parents (Sefton 1992: 3).

**Teenagers seeking abortion**

Australian teenagers have received between 12 and 13 thousand abortions per year in the last 12 years for which data are available from the Health Insurance Commission (HIC). These abortions relate to those performed in private freestanding clinics or for private patients in public or private hospitals. A further three thousand abortions are performed for teenage public patients in public or private hospitals.

Figure 2.5 shows the teenage abortion rate based on HIC data and hospital separations. Using just the HIC data it is apparent that abortion has remained fairly stable throughout the 1990s, as has fertility (Figure 2.1). While fertility declined slightly in the 1980s, abortion rates rose slightly resulting in rates that were very similar. However, if we calculate abortion rates based on the HIC data combined with hospital separations data the abortion rate exceeds the fertility rate for each year where data are available. Keeping in mind that the number of abortions in Australia is under-counted, even after combining the HIC claims and hospital separations, the abortion rate is likely to be slightly higher than 24 abortions per 1,000 women.

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4 For an overview of Australian data collections for abortion see Chapter 4.
2.5 The changing face of pregnancy resolution decisions

This chapter has illustrated the changing nature of teenage pregnancy and its resolution for teenagers in 20th century Australia. It was the social movements of the 1960s that led to the changes in the interpretation of abortion law and the introduction of the Supporting Mothers Benefit, and gave young women the means by which they could make their own decisions about the outcome of a pregnancy.

Figure 2.6 presents the distribution of teenage pregnancy outcomes between 1984 and 1998. Although the most dramatic changes in pregnancy resolution occurred earlier in the century, data are not available to make accurate comparisons. The figure includes ex-nuptial and nuptial confinements, abortion claims under Medicare for the full period. Abortions performed in hospitals are included for the years 1993 to 1998. In addition an estimate of abortions performed in hospitals from 1984 to 1992 is included. This estimate assumes a constant rate of abortion and would mask any change in this period if in fact any occurred. Adoptions do not feature in this chart due to their small numbers throughout the 1980s and 1990s and the problems associated with the reporting of age of birth of the mother.

Source: Appendix Table A2.4.
During the 1980s and 1990s the most dramatic change occurred in the proportion of pregnancies resulting in a nuptial birth (Figure 2.6). In 1984, 19 per cent of pregnancies resulted in a nuptial birth, falling to four per cent in 1998. It seems as if shot-gun marriages continued for some into the 1980s, even though public opinion had moved away from this option due to the low success rate of these marriages. The age at marriage also increased allowing for a longer period outside marriage in which an ex-nuptial pregnancy could occur. Pregnancies resulting in an ex-nuptial birth rose only five percentage points to 41 per cent. While ex-nuptial births were rising, many of these births would be occurring in a stable or de-facto relationship. Since 1974 birth registration has allowed for paternity acknowledgment, where the parents are not married. In 1998, 79 per cent of the fathers of teenage ex-nuptial births acknowledged the birth (ABS 1999). This however, does not demonstrate the extent to which fathers are involved in the baby’s life, or even if the parents live together.

**Figure 2.6: Percentage distribution of pregnancy outcomes for Australian teenagers, 1984–1998**

![Percentage distribution of pregnancy outcomes](image)

Source: Appendix Table A2.5.

Abortion, as an outcome of teenage pregnancy, also rose over this period. At the beginning of the period abortion accounted for roughly 45 per cent of pregnancy outcomes, rising to 55 per cent in 1998 (Figure 2.6). Given that some abortions are not recorded, this figure is likely to have been higher throughout the entire period.
The remainder of this thesis seeks to explore various features in the lives of young pregnant women that may shed light on their pregnancy resolution decisions. The next chapter reviews the state of current research in Australia on teenage pregnancy and explores theoretical frameworks for use in the study of teenage pregnancy resolution decisions.
Chapter 3

Teenage pregnancy resolution: Previous research and theoretical considerations

One of the most fundamental demographic changes to have occurred in developed nations over the past thirty years has been the unprecedented level of control women have over their fertility. The widespread use of effective contraception, increased access to safe abortion practices and more liberal social attitudes to abortion and single motherhood, have given women profoundly more choice in whether and when they choose to become mothers.

Before the landmark Menhennitt and Levine rulings in Victoria (1969) and New South Wales (1971), the ‘problem’ of teenage pregnancy was overwhelmingly resolved through a choice between a ‘shot-gun’ wedding (an act to legitimise out-of-wedlock conception) and adoption. As has been shown in Chapter 2, this choice was rarely made by the pregnant teenager herself—parents, working within the social context of the time, often dictated which alternative she would pursue. Today, more and more young women are deciding for themselves whether to continue or terminate unwanted pregnancies.

Although there exist a number of theoretical frameworks to assist in studying how such decisions are made, Australian research on teenage pregnancy has been limited to discussions of trends in teenage fertility, sex and contraceptive use, or the consequences of teenage motherhood. The following section overviews such research to provide the contextual background in which teenage fertility choices are made in Australia. The chapter then explores international investigations into how teenagers resolve pregnancy. Finally, following a review of existing frameworks applicable for studying the pregnancy resolution decisions of teenage women, the chapter concludes by outlining the theoretical framework chosen for the present study.
3.1 Teenage pregnancy in Australia

There is an abundance of research on teenagers and their fertility behaviour in the US due to the high rate of teenage childbearing (44.9/1,000 in 1995) and the different contexts in which it occurs. Research on teenage fertility in Australia is sparse and can be categorised into three general areas: fertility trends, sexuality and contraception, and consequences of teenage childbearing. A summary of this literature is presented below.

Trends

There are many published studies reporting fertility trends for teenagers either nationally or at the state or local level. Many of these studies display trends in teenage fertility as a precursor to discussion of other aspects of teenage fertility, such as sex and contraceptive use, medical outcomes for teenage mothers and their infants, and social consequences of teenage childbearing. These studies often do not mention abortion, either spontaneous or induced, nor do they cover regional or social variations in trends. In addition, most report the trends in teenage fertility from 1971 onward which, as we have seen in Chapter 2, tend to mask significant changes occurring in teenage fertility in the middle of the century. Although many of the studies are general, there are some that provide useful information on the situation in New South Wales. Some of the more notable reporting of trends and variations in teenage fertility are discussed below.

Carmichael (1996) presents the most comprehensive reporting of age-specific trends in ex-nuptial fertility and births within the first eight months of marriage. This history of Australian fertility trends highlights the changing nature of ex-nuptial fertility for all age groups and the changes in options for women who conceive outside marriage.

Montague (1981; 1991) also presents more detailed trends than are usually available although still at a national level. She presents 20-year trends in ex-nuptial and nuptial confinements to teenagers, and compares these to trends in teenage recipients of the supporting parents benefit and unemployment rates. Montague (1981) also presents data on adoption, abortion, births within 8 months of marriage and post-birth legitimations where available. The conclusions drawn from this array of data include a) there is no obvious relationship between the introduction and availability of welfare payments to teenage mothers and the teenage fertility rate and b) teenagers constitute a small
proportion of total supporting parents benefit recipients (Montague 1981; Montague 1991).

Clark (1984) provides a detailed statistical profile of the teenagers in her study area of Western Sydney and discusses trends in adoption, abortion and fertility. Siedlecky (1988) also presents trends in abortion and fertility as well as New South Wales regional variations in teenage births and abortions to all women (1996: 4). Siedlecky (1996: 4) highlights large regional disparities with teenage birthrates ranging from 5.4/1,000 in North Sydney to 48.0/1,000 in Orana/Far West. The abortion rate for all women is also shown to range from 11.6/1,000 in Orana/Far West to 42.5/1,000 in Central Sydney (Siedlecky 1996: 4). These figures highlight the large variations in birth and abortion rates that are often obscured by the state or national level estimates.

**Sexuality and contraception**

Much of the literature on teenage sexuality in Australia is concerned with the numbers of young people having sex⁵. However, there has been some discussion regarding attitudes to sexual behaviour and how these attitudes are linked to actual behaviour. Moore and Rosenthal (Moore and Rosenthal 1992) report that even though there has been an increase in the sexual activity of Australian teenagers of both sexes there is still a perceived ‘double standard’ in their attitudes towards sexual behaviour. That is, men are encouraged to be openly sexually active while women hide their sexual experience so as not to appear ‘easy’. Although there has been no clear link between attitude and behaviour, Moore and Rosenthal (1993: 13-15) identify religion, ethnicity, social class and poverty, education, and area of residence as major determinants of sexual behaviour in Australia. In addition they explore the influence of biological, psychological and sociological factors on sexual behaviour (Moore and Rosenthal 1993: 12).

More recently there have been calls for more feminist research focusing on the gendered aspects of teenage sexuality (Moore and Rosenthal 1993; Wilson 1988: 32). While gender studies are common, and women are nearly always the subjects of

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⁵ The literature relating to sexual activity is reviewed in Chapter 6.
research into teenage sexuality (and particularly pregnancy), there is little discussion of the social construction of femininity or the social construction of motherhood for teenagers. Griffin (1992) also calls for more sensitive research in the area of teenage sexuality with a move away from a focus on sexual activity as a problem behaviour.

Most of the studies dealing with sexuality also discuss contraceptive use. The main focus of studies of contraceptive use for teenagers has been on knowledge and use of contraception and its relationship to sex education in schools. In the years since HIV/AIDS became apparent in Australia many studies have focused on the choice of contraceptive method, with particular emphasis being placed on condom use.

Although sexual activity may be widespread, knowledge and use of contraception and safe sex practices are less so. Recent research has indicated that many Australian teenagers are not fully aware of the transmission and consequences of many sexually transmitted diseases, including HIV/AIDS, Chlamydia, Herpes, Wart Virus, Pelvic Inflammatory Disease and Non-Specific Urethritis (Grieg and Raphael 1989; McCamish, et al. 1988; Serv and Sedlack 1989; Wright, et al. 1989; Wyatt, et al. 1990). A similar level of misunderstanding and misinformation was found among youth workers in Western Sydney, raising concerns about the quality of information being provided to teenagers (Serv and Sedlack 1989).

Some barriers to the successful dissemination of sex and reproductive health education for young people have been identified in Australia. These include the sense of invincibility (Abbott 1988; Kippax 1989), physical appearance of sexual partner (Chapman and Hodgson 1988; Kippax 1989), negative attitudes to condom use (Chapman and Hodgson 1988) and a misunderstanding of monogamy as a safe sex practice (Abbott 1988; Kippax 1989; McCamish, et al. 1988) along with perceptions of romantic love and trust (Abbott-Chapman and Denholm 1997; Shaw 1992).

These barriers are virtually all gender and/or youth specific. Young people generally have feelings of invincibility in many aspects of their lives. They also tend to see current relationships as lasting a long time and do not take account of their partner’s prior sexual activity when assuming that their relationship is monogamous. It has been observed that monogamy among teenagers is in fact serial monogamy (Abbott 1988). The ideas that condoms reduce pleasure and that you can tell if your partner has
HIV/AIDS by looking at him or her are generally associated with male pleasures and female attractiveness. Thus, some researchers have argued that gender relations and attitudes to women may be important barriers for changes to safe sex practices in Australia (Chapman and Hodgson 1988; Wyn and Stewart 1991). Combined with barriers specific to gender and youth, some researchers have identified racial differences in attitudes towards sex, youth and gender (Gallois and Callan 1990).

In addition to research on the contraceptive behaviour of teenagers, there exists a body of published work directed at improving the relationship between teenagers and health professionals, and providing health professionals with information on contraception for teenagers. Wootten (1984) outlines the legal position of doctors with regard to prescribing or supplying contraceptives to teenagers, as well as highlighting some of the moral issues in this domain. Sparrow (1988) also discusses ethical issues, parental involvement and approaches to providing contraception to teenagers. She acknowledges the irregularity of adolescent sexuality (Sparrow 1988: 56) and advises on how to examine and treat teenagers (Sparrow 1988: 53). Siedlecky (1988) also gives advice to health practitioners emphasising the need for confidentiality and for age-appropriate communication free of condescension.

**Consequences of teenage childbearing**

Studies of the consequences of teenage childbearing are primarily focussed on the health (both physical and psychological) of the child and mother, and the economic options for the mother’s future. Low maternal age is often found to be a risk factor for poor delivery outcomes for both mother and child. The vast majority of research on the outcomes for Australian teenagers and their children appear in the medical literature. Notwithstanding the abundance of this literature, there are conflicting interpretations of the medical consequences of teenage childbearing.

Data published by the Australian Institute of Health and Welfare for 1993 indicate that teenagers (15–19) were slightly more likely than those aged 20–24 to deliver a baby of low birthweight (less than 2500gm) (8.2% compared to 6.5%) (Lancaster, et al. 1996). They were least likely to deliver by caesarean section and had pregnancy durations similar to those aged 20–24 (Lancaster, et al. 1996). Infants born to teenagers were at higher risk of both foetal and neonatal death (Lancaster, et al. 1996). This could be due
to the influence of births to indigenous teenagers whose foetal death rate was twice that of non-indigenous teenage mothers (Plunkett, et al. 1996).

Data from the late 1980s for South Australia indicate higher frequencies of pre-term deliveries and low birthweight babies in teenagers (Zhang and Chan 1991). They were also more likely to experience obstetric complications and have fewer antenatal visits (Zhang and Chan 1991). However, comparison with single women in their twenties who were Caucasian, primigravida with seven or more antenatal visits showed similarity in outcomes (Zhang and Chan 1991). Zhang and Chan (1991) conclude that age is not in itself a risk factor.

A previous study in Western Sydney also found that teenagers did not have the poor obstetric outcomes that had been alluded to in the medical literature (Bradford and Giles 1989). Between 1982 and 1986, Bradford and Giles (1989) found no significant differences between the birthweight or perinatal mortality of babies of teenagers giving birth at Blacktown District Hospital and of a control group. The infants of teenagers did not differ from those of the control group in relation to rates of asphyxia, respiratory distress or congenital abnormalities (Bradford and Giles 1989). Although teenagers had higher rates of preeclampsia than did the control group, the rate was not higher than observed in the general obstetric population, and differences disappeared when teenagers were compared to only primigravidas in the control group (Bradford and Giles 1989: 3).

Four other Australian studies published in the early 1980s also support these findings (Correy, et al. 1984; Lee and Walters 1983; Straton and Stanley 1983; Ward and Biggs 1981). The results of all of these studies suggest that other risk factors are more important than age in determining poor maternal outcomes. These include smoking, low socio-economic status, mobility and low levels of maternal education. Two other factors of concern are very low maternal age (less than 16) and aboriginality. These two groups have not experienced the decline in fertility noted for teenagers as a whole (Straton and Stanley 1983).

There are very few published studies on long term or social and economic consequences of teenage childbearing in Australia. Littlejohn (1996) has conducted a five-year longitudinal study of teenage mothers in Victoria. Participants were surveyed during
pregnancy (n=183), when the child was aged one year (n=48) and when the child was aged five years (n=7) (Littlejohn 1996: 19). Littlejohn (1996) found that these teenagers faced both economic and housing difficulties. Extensive analysis of this group was not possible due to the low retention rate, resulting in a final sample size of seven.

Milne-Home et al. (1996) have examined the barriers to further education and employment for pregnant and parenting teenagers. In doing so they found that such teenagers in Western Sydney held traditional values about women’s roles in society, such as women as homemakers and women as mothers, and identified strongly with the role of motherhood. A previous study in the same area found similar values among teenage mothers (Clark 1984). A study in Queensland claimed that these traditional values are also connected to values that denounce abortion and working motherhood (Wilson 1988; Wilson 1989).

All of these studies of social consequences found that teenage mothers were disadvantaged economically and socially. They were either receiving government benefits, working in low-paid occupations or were dependent upon parents or partners. They also had difficulty finding suitable accommodation. For those whose education had been interrupted by motherhood, there was often a desire to return to education or training. Overwhelmingly, these studies found that many teenage mothers were socially isolated. Recommendations of all of these studies included calls for more services directed at teenage mothers.

Research in Australia has primarily focused on contraceptive use, particularly in the HIV/AIDS era, trends in teenage childbearing and estimates of abortion, and medical outcomes for teenage mothers and their infants. Thus the period between conception and outcome remains unresearched in Australia. Figure 3.1 illustrates this gap and highlights the area of the proposed study. The study is primarily concerned with identifying the differences and similarities between young women who terminate a pregnancy and those who continue a pregnancy. What happens to result in one outcome over another? What are the characteristics of the teenagers who continue a pregnancy to term? What external factors influence the outcome of teenage pregnancy?

Figure 3.1: Australian literature: issues relating to teenage fertility
3.2 Resolving teenage pregnancies

Research on the decision to continue or terminate a teenage pregnancy is sparse (Miller and Moore 1990). Miller and Moore (1990) cite methodological constraints as the main obstacle in carrying out this type of research. They suggest that problems of bias would result from using nationally representative surveys, as abortions are under-reported, and from clinic-based studies, due to small numbers and unrepresentative clientele. There are however several studies worth discussing.

In 1972–1974 Evans et al. (1976) conducted a survey of 333 unmarried teenagers, aged 13–19, who were pregnant or thought they were pregnant. Respondents were all residents of Ventura County, California. They found that young women who terminated their pregnancies were more likely to finish high school and had higher grade point averages. They also found that young women who reported knowing other teenage mothers were more likely to continue their pregnancies, while those with more liberal attitudes toward abortion at the time of pregnancy were more likely to choose abortion for themselves. These results suggest that educational, normative and psychological factors all contribute to pregnancy resolution decisions. However, these results are
based on bivariate analyses and thus do not take relationships among independent variables into account.

Using the data collected in Ventura County (Evans, et al. 1976), Eisen et al. (1983) sought to use an expected utility decision model to examine the effect of psychosocial, background and economic factors on pregnancy resolution decisions. They found that women who terminated their pregnancies were more likely to be Caucasian and Catholic, less likely to receive financial aid from either their family or from the state, and have a higher grade point average. In terms of the psychosocial factors measured, more liberal attitudes towards abortion were associated with choosing abortion, as were the perceived attitudes toward abortion of boyfriends and mothers. Knowing other teenage mothers was associated with choosing motherhood, but knowing other teenagers who aborted did not influence the decision. These results confirm those of Evans et al. (1976), and find that elements of each of the three levels of factors measured, background, economic and psychological, were instrumental in discriminating between those who terminated and those who continued their pregnancies.

The Ventura County data were utilised again in 1986 (Leibowitz, et al. 1986) to examine only the economic factors influencing the resolution decision. Using an economic model, factors relating to education and public aid or self-support were found to influence the decision to terminate a pregnancy.

Using data from a survey of New York State high schools Yamaguchi and Kandel (1987) sought to determine factors associated with premarital pregnancy and its resolution using the framework of problem behavior theory. They were particularly interested in the association between drug use and pregnancy. They found that once pregnancy had occurred, race had the strongest effect on pregnancy outcome. Choosing abortion was less likely for those who had dropped out of school and those who were classified as depressed, and more likely for those enrolled in post-secondary school courses and those who were currently using an illicit drug other than marijuana (Yamaguchi and Kandel 1987).

Cooksey (1990) explored the effect of family background factors on the resolution of teenage premarital pregnancies in the US. She examined three possible pregnancy
resolutions: abortion, out-of-wedlock childbearing, and legitimation, using data from the 1979–86 National Longitudinal Surveys of Work Experience and Youth (NLSY). The analysis used multinomial logistic regression to evaluate the effect of family characteristics, such as family structure, religion, parental education, number of siblings and maternal employment on the resolution of teenage pregnancy. The analysis found that the effect of family characteristics on pregnancy resolution differed substantially by race. For white teenagers, parental education and number of siblings were both found to be significantly associated with the decision to terminate a pregnancy (Cooksey 1990: 214: Table 2). The likelihood of abortion increased with increasing parental education and with increasing family size (number of siblings).

Also using data from the NLSY, Plotnick (1992) explored the effects of psychosocial and family background characteristics on teenage pregnancy and its resolution. Drawing on problem behaviour theory and complementary models of behaviour, he found that pregnancy resolution through abortion was associated with high self-esteem, high educational expectations, religion and religious attendance. Family characteristics were also associated with pregnancy resolution, including mother’s employment, family structure and number of siblings. Mother’s education was found to be associated with abortion through the shaping of attitudes.

These studies all have different theoretical frameworks, based on either the economic or psychological models underpinning their analysis and are limited in perspective. However, it is apparent that there are several groups of variables working to influence pregnancy resolution decisions. These are educational factors (Eisen, et al. 1983; Evans, et al. 1976; Leibowitz, et al. 1986; Yamaguchi and Kandel 1987), socio-economic and family factors (Cooksey 1990; Eisen, et al. 1983; Evans, et al. 1976; Leibowitz, et al. 1986; Plotnick 1992; Yamaguchi and Kandel 1987), attitudes and aspirations (Eisen, et al. 1983; Evans, et al. 1976; Plotnick 1992). These groups of factors are all examined in the current research. Before describing the analytical framework employed in this thesis, some theoretical considerations for the study of teenage pregnancy resolution are discussed.
3.3 Theoretical considerations

Fertility theory, generally, has done little to provide an insight into the fertility of teenagers in developed countries. Macro-level theories, such as Demographic Transition Theory (Notestein 1945) or Caldwell’s Wealth Flows Theory (Caldwell 1982), are concerned with changes in fertility at the societal level, most notably with fertility decline.

Micro-economic theories of fertility began with the assumption that fertility decisions are analogous to other consumer decisions (see Becker 1965; Becker 1981). The concept of rationality in economic theories assumes that decision makers will act to maximise their utility, often defined simply in monetary terms. The notion that fertility decisions are simplified to essentially a decision of cost has been criticised for not taking into consideration other benefits (utilities) of children and the settings in which these occur.

In considering rationality, Coleman (1990: 18) states that ‘much of what is ordinarily described as nonrational or irrational is merely so because the observers have not discovered the point of view of the actor, from which the action is rational.’

Unsatisfied with other rational choice models, Friedman et al. (Friedman, et al. 1994) developed a Theory of the Value of Children. The foundations of this theory lie in the concepts of uncertainty and uncertainty reduction. Their basic thesis is that ‘the impetus for parenthood is greatest among those whose alternative pathways for reducing uncertainty are limited or blocked’ (Friedman, et al. 1994: 383). They also note that uncertainty is defined differently for different people and that reducing certainty in one arena of life may lead to increased uncertainty in other areas. For example, many would argue that becoming a mother, particularly as a teenager, would create a whole new set of uncertainties, a seemingly incongruous action which Friedman et al. (1994: 383) attribute to individuals’ biased perceptions of risk.

The Value of Children theory has been criticised by Lehrer et al. (1996) in several respects. However, when considering teenage fertility, the idea that having a child could be beneficial in reducing uncertainty in the face of limited or blocked pathways moves towards an understanding of the actor as espoused by Coleman (1990). This idea is also
supported by the work of others (see Furstenberg, et al. 1990; Furstenberg 1987; Luker 1996) who cite teenage fertility as a consequence of poverty and perceived limited opportunities.

While some theories of fertility motivation attempt to include the context in which fertility decisions are made, they do not specifically identify this context. Bronfenbrenner’s (1979) conceptualisation of The Ecology of Human Development defines four spheres in which human development occurs—microsystems, mesosystems, exosystems, and macrosystems. These four spheres, or systems, are defined below.

**Microsystem**

A microsystem is a pattern of activities, roles, and interpersonal relations experienced by the developing person in a given setting with particular physical and material characteristics. (Bronfenbrenner 1979: 22)

The microsystem includes factors belonging to an individual which directly or indirectly influence behaviour or development. For example, microsystem-level variables could include biological, psychological, or behavioural factors.

**Mesosystem**

A mesosystem comprises the interrelations among two or more settings in which the developing person actively participates (such as, for a child, the relations among home, school, and neighborhood peer group; for an adult, among family, work, and social life). (Bronfenbrenner 1979: 25)

The mesosystem involves social institutions such as family, school and church and the interactions of the individual within and between these institutions.

**Exosystem**

An exosystem refers to one or more settings that do not involve the developing person as an active participant, but in which events occur that affect, or are affected by, what happens in the setting containing the developing person. (Bronfenbrenner 1979: 25)

Exosystem settings are ones in which the individual is not an active participant. However events occurring in this setting can still affect the person. Examples of exosystem characteristics are the political or economic climate of a society, the type of television programming or environmental characteristics such as air and water quality.
Exosystem settings, being difficult to measure in an individual questionnaire, are not explicitly included in this study. However, the analysis so far presented in Chapter 2 discussed legal and social changes in Australian society. In addition, Chapter 5 presents an exploration of the socio-economic situation in New South Wales and the Australian Capital Territory along with geographical access to abortion.

**Macrosystem**

The macrosystem refers to consistencies, in the form and content of lower-order systems (micro-, meso-, and exo-) that exist, or could exist, at the level of the subculture or the culture as a whole, along with any belief systems or ideology underlying such consistencies. (Bronfenbrenner 1979: 26)

The macrosystem encompasses elements of culture or subculture. These elements, such as ethnicity and socioeconomic status, inform and shape the individual’s belief system.

Figure 3.2 provides a visual representation of three levels of Bronfenbrenner’s ecological framework as it can be applied to the study of teenage pregnancy resolution decisions. One important element of this framework is that ‘the ecological environment is conceived topologically as a nested arrangement of concentric structures, each contained within the next’ (Bronfenbrenner 1979: 22). This allows for the reciprocal effects of the environment on the individual and the individual on the environment.

**Figure 3.2: Theoretical framework for the study of teenage pregnancy resolution**
This framework has been used to aid in the study of many social phenomena including, teenage pregnancy among low-income blacks in the US (Franklin 1988), pregnancy and parenting status in Texas (Corcoran, et al. 2000), family interaction (Maccoby and Martin 1983), domestic violence (Carlson 1984) and child abuse (Belsky 1980) among others.

Corcoran (1999) suggests the use of the ecological model to synthesise literature in the area of teenage pregnancy as it spans many disciplines and perspectives. She suggests that this model ‘can be seen as a way to organize factors associated with complex social problems so that knowledge building can occur’ (Corcoran 1999: 604). This form of multisystem categorisation has also been employed to analyse literature relating to sexual risk behaviour (Kotchick, et al. 2001).

Although categorisations using this type of framework are commendable, there are discrepancies in the way authors perceive different characteristics. For example, Corcoran (1999) views a person’s race as operating at the macrosystem level. That is, a person’s race contributes to the formation of their beliefs and ideologies. Kotchick et al. (2001) however, view race as a biological variable operating at the microsystem level.

Franklin (1988), drawing on Belsky (1980), has categorised Bronfenbrenner’s structure of systems as individual, family, social-structural and sociocultural levels. Kotchick et al. (2001) also reformulate Bronfenbrenner’s framework to include the self-system, family system and the extrafamilial system, thus excluding the exosystem or social-structural level.

Although the current research is essentially empirical, it is naive to assume that decisions about fertility could possibly be made in a vacuum; that is, without influence from the settings in which a person lives and the society or culture in which these settings occur. Thus, in this thesis, Bronfenbrenner’s ecological systems are used to illustrate these influences on a young woman’s pregnancy resolution decision. Table 3.1 organises the elements explored in this thesis into the ecological framework. Although elements of history and personal history are subsumed in the ecological framework they are not included in the analytical framework for this research. (Chapter 2 described historical changes in teenage pregnancy resolution along with changes in Australian society. Chapter 6 also provides an insight into the sexual histories of the young women
under study.) While the current research takes the exosystem into account implicitly, there is no attempt to measure elements of this system.

Measurable elements of Bronfenbrenner’s system are introduced in the thesis first as separate areas as indicated in Table 3.1. Chapter 5 incorporates elements from the three systems. The background characteristics used in this study all relate to the characteristics of the respondent at the time of most recent conception. Their ethnicity and geographic area of residence are both considered as macrosystem, or cultural level, variables as they both act to influence the formation of beliefs and behaviours. Religious affiliation and living arrangement are both considered mesosystem (sometimes called family level) variables. They too act to influence the formation of beliefs and behaviours, however the respondent actively participates in their construction. Age at conception is an aspect of individual behaviour and thus exists at the microsystem, or individual, level.

Chapter 7 explores education and its association with teenage pregnancy resolution. It also necessitates the use of macro- and mesosystem variables. Self-assessed school marks and subject preferences are considered as an element of the mesosystem. While they could be considered as part of the microsystem, in terms of intellectual functioning, they are considered here to be partly a function of how young women see themselves within their school and are, thus, located at the mesosystem level. Other school measures are also considered within the mesosystem, as is the family type. The macrosystem is represented here by parental education, which can be viewed as a proxy for socio-economic status.

The mesosystem is explored further in Chapters 8 through the investigation of the influence of significant others on teenage pregnancy resolution decisions. It includes both direct and indirect (normative) influences in familial and peer settings. In Chapter 9, there is a focus on psychosocial characteristics, all element of the microsystem. Chapter 10 brings these three systems together.

Before exploring these aspects of the lives of young pregnant women, Chapter 4 outlines the data and methods employed in this research.
### Table 3.1: Analytical framework for the study of teenage pregnancy resolution

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Explanatory factors</th>
<th>Macrosystem</th>
<th>Mesosystem</th>
<th>Microsystem</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ch5</td>
<td><strong>Background characteristics</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ethnicity</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Geographic area at conception</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Living arrangement at conception</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>Religious affiliation</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>Age at conception</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Ch7</td>
<td><strong>Education</strong></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Self-assessed school marks</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Subject preference</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Attending school at first conception</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>Highest level of school completed</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td></td>
<td><strong>Family characteristics</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Parental level of education</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Family type</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Ch8</td>
<td><strong>Significant others</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Direct influence</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Indirect influence</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Source of influence</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Ch9</td>
<td><strong>Psychosocial</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Self-esteem</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>Gendered nature of contraception</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Attitudes to traditional motherhood</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>Attitudes to single motherhood</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>Abortion approval</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>Sexual values</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Attitudes to government benefits</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>Educational aspirations</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Occupational aspirations</td>
<td></td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>
Chapter 4

Pregnancy resolution decisions: Data collection

As discussed in Chapter 3, little research has been conducted on the decision making processes of pregnant teenagers in Australia. Pre-existing data collections on fertility are rarely focussed on teenagers and rarely ask about abortion; thus there is a dearth of information regarding pregnant teenagers. Further, data that have been collected have only covered a limited range of demographic and social characteristics such as age, relationship status and highest level of education. This inadequacy of existing information mandated the collection of new data to test the hypotheses underlying the aim of this dissertation.

A variety of information sources, both quantitative and qualitative are used in this thesis. Quantitative data include primary survey data, vital statistics, census data and other government data collections. Qualitative data were collected in conjunction with the Young Women’s Pregnancy Survey and the Young Mothers Survey. The majority of the analyses presented are based on these surveys. This chapter serves to outline the collection of data and uses to which they are put, beginning with a description of the Young Women’s Pregnancy Survey and the Young Mothers Survey. It then describes the secondary data sources used and, finally, briefly outlines the various analytical techniques employed throughout the thesis. The chapter provides an overview of the data sources and analytical techniques used. Methods and indicators will be discussed in more detail, where needed, at the points where they are actually used.

4.1 The Young Women’s Pregnancy Survey and The Young Mothers Survey

The main aim of this thesis is to examine the differences and similarities between young women who terminate and those who continue their pregnancies. The focus of this differentiation lies in the areas identified in the theoretical model proposed in Chapter 3; namely, individual level, institutional level and cultural level characteristics.
Miller and Moore (1990) recognise the lack of attention to research on pregnancy resolution and attribute this to ‘formidable obstacles’ in survey method and sample selection: information on abortion in large nationally representative surveys tends to be under-reported. In any case, this type of survey with information on abortion was not available for Australia. Using a clinic population is also problematic, partly due to small sample sizes and partly to selection bias and under- or over-representation of particular groups of teenagers (Miller and Moore 1990).

The timing of the data collection in relation to the timing of the decision was an issue that needed to be resolved very early in the design process. Collecting information after pregnancy is confirmed but before a decision is made leads to a multitude of problems. The one of most concern here was the possibility that the interview or questionnaire may influence the decision. On the other hand, interviewing after the decision has been made leads to bias due to post-event rationalisation and possible memory loss. It was felt that, ethically, the second of these two options was better.

In addition to facilitating the achievement of this aim, the collection of data had additional goals. Due to the lack of existing information in Australia it was felt that the data collection should also seek to compile a comprehensive dataset describing the experiences of young mothers with a large enough sample size for multivariate analyses to be performed, and to provide baseline information for future research.

It was recognised that it would be easier to obtain respondents who had chosen motherhood than those who had chosen to terminate a pregnancy. The reasons for this were twofold. Firstly, there already existed an administrative database through which young mothers could be contacted (discussed below). No such database was accessible for women who had had an abortion. Secondly, the sensitivity of abortion suggested that many young women would be unwilling or unable to complete a questionnaire. To address this issue and to meet the aim discussed above, it was decided that the collection of data should take the form of a case-control study.

The data collection comprised two connected surveys: The Young Women’s Pregnancy Survey and The Young Mothers Survey. The Young Women’s Pregnancy Survey was designed to be administered to young women presenting for abortion in free-standing abortion clinics. This survey would not have been possible without the support and
cooperation of the staff at the participating clinics. The Young Mothers Survey was supported by the then Commonwealth Department of Social Security. Again, the support of this Department was crucial to the selection and contact of respondents.

Finding respondents

*The Young Mothers Survey (YMS)*

The sample of young mothers was drawn from clients of the Department of Social Security (DSS). DSS provides various types of means-tested family income support. For the purposes of this survey the sample needed to be drawn from those receiving income support for which all teenage mothers were eligible, whether they were sole parents, living in a de-facto relationship, or married. There were two types of payments that covered all mothers; the Maternity Allowance and the Family Payment.

*Maternity Allowance*

The Maternity Allowance was introduced on 1 February 1996. In January 1998 it consisted of a maximum lump sum payment of $750 per child after birth and $200 upon presentation of immunisation documentation when the child reached 18 months of age. Families were eligible if their combined income was less than $65,941 (for one child) with assets not exceeding $407,250 (excluding the family home). Most single women and couples aged under 20 years would be eligible for this payment as the income and assets thresholds are high. However, address details were only current at the time of application (up to 13 weeks after the birth of the child) and at 18 months after the birth of the child.

*Family Payment*

The Family Payment is a continuing payment made every fortnight for families with a child up to age 18. The child must be in full-time education from age 16 to age 18 for the family to receive the payment. The Family Payment has the same eligibility requirements as for the Maternity Allowance. In January 1998, the fortnightly payment was $96.40 for each child aged under 13 years where the family income was equal to or less than $23,400. This amount is reduced on a sliding scale for family incomes up to...
$65,941. The amount of Family Payment received can also be reduced by the amount of
maintenance received.

Essentially, for new parents, the populations receiving Family Payment and Maternity
Allowance are the same, with two factors making the size of the Family Payment
population smaller, the incidence of infant mortality and increases in family income
beyond the upper threshold. However, as the Family Payment was a continuing
payment it was likely to have more up-to-date address details for clients. This, and a
desire to avoid cases involving an infant death, made the Family Payment the best
source of a sample population.

The sample frame for the Young Mothers Survey consisted of all female Family
Payment clients with the following imposed parameters:

1. The initial application was made between 1 July 1997 and 30 June 1998.

2. The mother’s age at most recent confinement was less than 20 years and 7 months.

3. The home address was located in New South Wales or the Australian Capital
   Territory.

The sample frame was then examined for no-contact flags. These are indicators for DSS
staff indicating that the client does not want to receive information or mail-outs from
the department. They are also used for women who have experienced domestic violence
and do not want their details released in any way. Once the final sample was drawn a
package was sent to each potential respondent. This contained a cover letter from DSS
explaining the research, a cover letter from the researcher, a questionnaire and a reply
paid envelope.

**The Young Women’s Pregnancy Survey (YWPS)**

The sample for the Young Women’s Pregnancy Survey was drawn from women under
twenty years old presenting for abortion at abortion clinics in New South Wales
between September 1998 and February 1999. The clinics were initially selected from
the Yellow Pages and sent an introductory letter outlining the research proposal and
requesting their assistance. The clinics are concentrated in the Sydney area, with eight
clinics in Sydney and one each in Tweed Heads, Albury, Campbelltown and Newcastle.
Only two of the contacted clinics, both located in central Sydney, declined to
participate. Both clinics were small, with one refusing because of the extra workload survey administration would present and the other claiming that their clients were rarely aged less than 20. Only one clinic, The Preterm Foundation, required separate ethical clearance. There was one clinic operating in the ACT at the time of the survey. The clinic gave in principle agreement to participate when initially contacted. At this time the ACT Legislative Assembly was considering a bill that would change the provision of abortion services in the ACT. Because of the uncertainty surrounding the outcome of this bill the clinic declined to participate.

Visits were made to the clinics in Sydney and Campbelltown in June 1998 to determine their admitting procedures and to gather general information about each clinic. Staff at each clinic were advised of the intended survey procedures, and modifications were discussed to allow the distribution of questionnaires in each clinic without any interference or disruption to services.

The surveys were distributed to clinic clientele by staff at each clinic. Staff would determine if the client were eligible (aged under 20). They would provide a short description of the survey and its purpose and then give the client a package containing a cover letter, the questionnaire and a reply paid envelope.

The following sections describe the services and clienteles of five of the participating clinics.

**The Preterm Foundation**

The Preterm Foundation, located in the Sydney suburb of Camperdown, began performing abortions out of a free-standing day surgery in June 1974. The Foundation had been established with the express purpose of providing improved access to abortion and was modelled on the Preterm Institute in Boston, USA. Preterm performs abortions on women up to 14 weeks pregnant using suction curettage under local anaesthetic, local anaesthetic and intravenous sedation, or general anaesthetic. It offers counselling and contraceptive information to patients receiving abortions. Between July 1996 and June 1997 Preterm performed 7,436 abortions. Nine per cent of these abortions were performed on women aged under 20 (Table 4.1). Written parental consent is required for women aged under 14, and women aged between 14 and 16 must provide documentary evidence of their age.
### Table 4.1: Age distribution of Preterm clients July 1996 to June 1997

<table>
<thead>
<tr>
<th>Age group</th>
<th>Number of abortions</th>
<th>Percentage of abortions at each age (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 20</td>
<td>705</td>
<td>9.5</td>
</tr>
<tr>
<td>20–24</td>
<td>2,125</td>
<td>28.6</td>
</tr>
<tr>
<td>25–29</td>
<td>1,815</td>
<td>24.4</td>
</tr>
<tr>
<td>30–34</td>
<td>1,266</td>
<td>17.0</td>
</tr>
<tr>
<td>35–39</td>
<td>955</td>
<td>12.8</td>
</tr>
<tr>
<td>40 +</td>
<td>517</td>
<td>7.0</td>
</tr>
<tr>
<td>Age not stated</td>
<td>53</td>
<td>1.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>7,436</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

Source: Preterm, unpublished data.

### Australian Birth Control Services

Australian Birth Control Services (ABC) offer abortions at three free-standing clinics in Sydney; Camperdown, Randwick and Kingswood in the western suburbs. The Kingswood clinic is the most recent with abortions being performed there from March 1998, in an area with no alternative services. ABC perform abortions for women up to 18 weeks pregnant and provide counselling and other reproductive health services. Abortions are performed by vacuum aspiration up to 14 weeks using local anaesthetic, local anaesthetic and intravenous sedation or general anaesthetic. Second trimester abortions make up 12 per cent of abortions performed by Australian Birth Control Services, 69 per cent of these are to women aged under 20 (Australian Birth Control Services, unpublished data). Roughly 22 per cent of all abortions performed by Australian Birth Control Services are to women aged under 20.

### Bessie Smyth Foundation-Powell Street Clinic

The Bessie Smyth Foundation is the feminist collective that runs the Powell Street Clinic. The clinic is a non-profit service in a free-standing building in Homebush.

### Table 4.2: Age distribution of Bessie Smyth Foundation clients 1997

<table>
<thead>
<tr>
<th>Age group</th>
<th>Number of abortions</th>
<th>Percentage of abortions at each age (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 20</td>
<td>198</td>
<td>14.6</td>
</tr>
<tr>
<td>20–24</td>
<td>379</td>
<td>27.9</td>
</tr>
<tr>
<td>25–29</td>
<td>320</td>
<td>23.5</td>
</tr>
<tr>
<td>30–34</td>
<td>237</td>
<td>17.4</td>
</tr>
<tr>
<td>35–39</td>
<td>148</td>
<td>10.9</td>
</tr>
<tr>
<td>40 +</td>
<td>77</td>
<td>5.7</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1,359</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

Note: These figures do not include women who presented in this period as repeat patients where their first contact was prior to July 1997.

Source: Bessie Smyth Foundation, unpublished data.
The Powell Street clinic has been performing lawful abortion since its establishment in 1977. Clinic staff place a lot of emphasis on counselling and information. Abortions are performed up to 12 weeks using vacuum aspiration under local anaesthetic or intravenous sedation.

The survey instrument

The questionnaires for the two surveys were similar and were designed to be directly comparable while reflecting the differing situations of the two populations (see questionnaires at Appendix 2). Because of the lack of previous research on pregnant teenagers in Australia it was considered desirable to obtain as much detail as possible in the surveys. Each questionnaire contained nine sections.

**Section A: Background**

Questions asked in this section concerned the personal and family background of the respondents. General demographic variables such as age, religion, parents’ religion, parents’ education, country of birth, parents’ country of birth and aboriginality were obtained. Other questions covered family composition, parental relationship, family contact, parents’ employment, welfare payments to siblings and the fertility of mothers, sisters and friends.

**Section B: Education**

This section asked about highest level of education and current attendance at an educational institution, and explored the timing of and reasons for leaving school. There was also a self-description of the level of marks received in classes and a scale measuring how much the respondents liked particular subjects. In addition, respondents to the YMS were asked about their child care arrangements while at school, and the level of difficulty they faced in continuing with their studies after giving birth.

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6 When referring to page numbers on the questionnaires in this thesis, the page number refers to the Young Mothers Survey questionnaire, displayed first in Appendix 2.
**Section C: Housing**

Questions were asked about housing at two points in time: at or around conception, and at the time of the survey. Questions on household composition, type of housing, rent and relationship to landlord were asked. Respondents were also asked about their satisfaction with various aspects of their current housing arrangements including cost, size, safety and security of tenure. Respondents to the YMS were further asked about difficulties encountered with finding suitable housing.

**Section D: Employment and income**

Questions relating to the employment and income of both the respondent and the putative father were asked in this section. Questions on employment included hours worked, occupation, satisfaction with job conditions and available job benefits. Questions on income covered income from employment and government assistance. Additional questions related to other regular and ad-hoc income, and access to money for emergencies. Respondents to the YMS were also asked about their child care arrangements while at work.

**Section E: Pregnancy and decision making**

Questions relating to the most recent pregnancy and previous pregnancies were asked in this section. Areas covered include feelings about pregnancy, consideration of other resolution options, support and influence of others, and future fertility intentions.

**Section F: Relationships**

In this section, questions were focussed on the relationships of the respondent. Questions covered legal marital status, relationship status and marriage. A relationship history was also collected for relationships lasting over three months.

**Section G: Sex and contraception**

The questions in this section addressed sexual experience and contraceptive use. They covered the respondent’s first and second sexual experiences as well as the total number of sexual partners and total number of one-night stands. There were also questions concerning feelings of guilt about having sex and ‘forced’ sex.
An instrument was constructed to measure sexual experience at each age since sexual initiation. For each age from 14 to 19 the respondents were asked about the regularity of sexual intercourse, the number of sexual partners and their pattern of contraceptive use.

**Section H: Attitudes and values**

In this section respondents were asked about their ideal family size, and ideal ages of marriage, childbirth and sexual initiation. Attitudes to contraception, motherhood (including single-motherhood) and family, work and family, and government-provided income support to families were measured on a five-point scale. The scales ranged from strongly disagree to strongly agree. Also included in this section was a modified version of the Rosenberg Self-Esteem Scale (Rosenberg 1965).

**Section I: Life goals and the future**

This final section addressed the issues of future careers and education. Questions sought to establish the types of career and education the respondent aspired to, her commitment to achieving those goals, and changes to her goals after pregnancy.

The questionnaires were long and contained a high level of detail. While their size and complexity may have led to lower than average response, it was considered desirable to gather as much information as possible due to the lack of previous research in this area.

Because of the double blind nature of the survey design, response rates based on particular characteristics, such as geographical area, cannot be calculated. It is possible, however, to get a rough indication of the rate of response. Close to 3,014 surveys were mailed out by the Department of Social Security to young mothers. There were 1,122 surveys returned, giving a response rate of 37 per cent. During the clinic survey only one abortion clinic maintained a register of the number of surveys distributed. The returns from this clinic indicate a 34 per cent response. This clinic was one of the larger clinics with an established research protocol. The clinic staff were experienced in the distribution of surveys. It should be noted that this clinic was likely to have had a higher response rate than other clinics. Response rates of this magnitude were expected given the survey collection methods and the young sample.

After the data were collected they were combined into one data source. These data will be referred to throughout the thesis under the general term Young Women’s Pregnancy
Survey or YWPS. The respondents to the Young Mothers Survey become the controls and those from the Young Women’s Pregnancy Survey become the cases.

**In-depth interviews, personal stories and the Survey Hotline**

Demographers are increasingly integrating ‘traditional’ demographic large-scale quantitative surveys with smaller, more focused, qualitative methods. Combinations of quantitative and qualitative methods, usually anthropological in nature, have been used to study a variety of demographic phenomena in a variety of settings (Avong 1999; Caldwell, et al. 1988; Malungo 2000; Pitso 1997; Rao 1997). However, Knodel (1997: 848) has argued that demographers need to limit the types of methodologies employed, as they are rarely qualified to conduct research using a full complement of anthropological tools.

In 1991 Scrimshaw noted:

> Quantitative methods used in isolation tend to jump ahead to focus on reliability and replicability, but if validity is compromised, these efforts are wasted on data which do not reflect reality. Qualitative methods can capture actual behaviour with great accuracy, and can produce detailed information and insights applicable to both the development of testable hypotheses and the interpretation of quantitative data (Scrimshaw 1991: 237).

This thesis has a definite quantitative bent. In the time available for data analysis it was not possible to make full use of the qualitative data collected. The qualitative data were used, however, in one of the ways noted by Scrimshaw above: namely, to better develop the questions asked in the thesis, and they provided useful insight as to the direction that the quantitative analysis should take. Thus, while the analysis undertaken is mainly quantitative, it is informed by the qualitative data collected.

It was originally planned to conduct between 50 and 75 in-depth interviews with respondents to the quantitative surveys to further explore their feelings about their choices. It was hoped that these interviews would clarify issues that are hard to measure using a standard survey instrument. In particular it was thought that they could illuminate the sometimes intricate details of relationships with sexual partners and parents.
The interviews were designed to be conducted as conversations between the researcher and respondents, with little or no direction from the researcher. The idea was that the interview would be as naturalistic as possible so that information on sensitive issues could be covered. This approach also allowed for the interview to be led by the respondent in terms of the topics and direction of the interview. Thirteen interviews were conducted in the first two weeks of the field work.

However, as the completed questionnaires started to be returned the collection of qualitative data needed to be revised. The mail-out survey included a final open-ended question which stated: ‘Of all the teenagers who become pregnant in Australia today roughly half of them choose to continue with their pregnancy and the other half have an abortion. In your own words please explain why YOU chose to…’ (see Appendix 2: Page 18). There were also two pages where respondents were asked to write about their personal experience. An unexpectedly large number of respondents took the time to write lengthy responses in these sections. A few even went so far as to staple extra pages to the backs of their questionnaires to ensure that their stories were told. After roughly half of the questionnaires had been returned it was felt that the rich information provided in these personal stories obviated the need for further in-depth interviews.

Due to the sensitive nature, and complexity, of many of the questionnaire items it was decided to have the researcher available by phone to survey participants. To do this a Survey Hotline was established. The hotline was set up as a free phone call for respondents to discuss aspects of the questionnaire, confidentiality and other aspects of their fertility decision. Comprehensive notes were made of all 230 calls made to the hotline.

All of the textual data from questionnaires, Survey Hotline notes and transcribed interviews were coded and stored. The process of reading, re-reading, coding and classifying elements of these young women’s stories helped define the questions asked of the quantitative data in each of the following chapters.

### 4.2 Secondary data and official statistics

To provide a background in which to situate the current research it was necessary to draw data from a variety of secondary sources. These sources are government
departments including the Australian Bureau of Statistics (ABS), Health Insurance Commission (HIC) and Australian Institute of Health and Welfare (AIHW).

**Births and Estimated Resident Population**

In Australia registration of births is required under state legislation. The ABS publishes an annual report on the number of registered births in each calendar year. It also publishes the number of confinements defined as ‘a pregnancy which results in at least one live birth’ (ABS 2000: 102). In this thesis data on births and confinements are used together with the estimated resident population (ERP) in two ways. Firstly, in Chapter 2, data on births, confinements and ERP are used to calculate fertility and abortion rates to show trends over time. Secondly, in Chapter 5, these data are used to map fertility patterns by geographical area in 1996.

**HIC & HOSPITAL abortion data**

Data on abortions performed in Australia are not routinely centrally collated. There are two systems of collection. The Health Insurance Commission (HIC) collects data on abortions where a Medicare card is presented resulting in a claim against the national Medicare system. All Australian citizens are eligible for a Medicare card, which provides access to benefits for health care. Medicare cards can be used to lower the cost of a termination in private free-standing clinics and surgeries. In a survey of women seeking abortion in New South Wales, Adelson et al. (1995: 421) found that 10 per cent of respondents with a Medicare card did not intend to claim a refund for the termination. This figure was 11 per cent for women aged 15–24 (Adelson, et al. 1995: 421). The HIC collection does not include abortions to public patients in Australian hospitals. Data from the HIC by Statistical Sub-Division (SSD) are used in Chapter 5 to provide a geographic overview of abortions.
Hospital separations data are collected for all patients in public and private hospitals in Australia. Separations are coded by diagnosis of patient’s condition and the procedures performed while in hospital using ICD-IX or ICD-X.\(^7\)

To estimate the level of induced abortion in Australia, these data sources have been combined by Meyer et al. (Forthcoming). These data combining hospital separations and HIC presentations are used in Chapter 2 to illustrate recent trends in abortion.

**Census data**

Since 1961, the Australian Census has been conducted every five years. This thesis uses data from the 1996 Census. The Australian Bureau of Statistics has produced a computer-based product called CData96. Based on tables from the 1996 Census, CData96 allows for limited crosstabulation of census data for defined geographical areas. Chapter 5 presents graphical representations of some basic social indicators from the 1996 Census for Statistical Sub-Divisions (SSD) of New South Wales and the Australian Capital Territory.

In addition to CData96, a unit record file has been produced from the 1996 Census. This file represents a one per cent sample of the Australian population. One indicator of education, age left school, has been drawn from the one per cent sample file to compare with age of leaving school of YWPS respondents in Chapter 7.

**4.3 Methods of analysis**

This section outlines the main analytical techniques used throughout the thesis. Apart from simple demographic measures, other techniques include survival analysis, logistic regression and factor analysis. Each of these three techniques was applied using the SPSS software. Each technique is discussed in more detail where first used in the thesis.

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\(^7\) For more information on the compilation of abortion data using HIC and hospitals data see Meyer, et al. Forthcoming.
Rates and ratios

Various demographic measures are used in this thesis to illustrate the state of teenage pregnancy. In particular, rates and ratios used here refer to fertility and abortion.

**Age-Specific Fertility Rates, Teenage Fertility Rate and Total Fertility Rate**

Age-specific fertility rates (ASFR) provide an indication of the annual number of births to a group of 1,000 women of a particular age. Age-specific rates can be calculated for single years of age or for 5-year age groups. The form of the equation is as follows:

**Equation 1**

\[
ASFR = \frac{\text{Number of births to women aged } x}{\text{Number of women aged } x} \times 1000
\]

Because the fertility of teenagers is the focus of this thesis, it is useful to refer to the ASFR 15–19 as the Teenage Fertility Rate (TnFR). Throughout the thesis the TnFR (Equation 2) represents the number of births per 1,000 women aged 15–19 years. Because the age group 15–19 is the youngest in a set of ASFRs, the TnFR includes births to women aged less than 15 in the numerator but only women aged 15–19 in the denominator. Because there are so few births to women aged less than 15 this should not cause a problem.

**Equation 2**

\[
TnFR = \frac{\text{Number of births to women aged } < 20}{\text{Number of women aged } 15–19} \times 1000
\]

The total fertility rate (TFR) represents the average number of children a hypothetical cohort of women will have during their reproductive lives if they experience the age-specific fertility rates prevailing in a given calendar year. The TFR (Equation 3) is calculated by taking the sum of ASFRs, and dividing by 1000. If the ASFRs are based on 5-year age groups they need to be multiplied by five as each woman experiences this rate of fertility for 5 years.

**Equation 3**

\[
TFR = \frac{\sum ASFR}{1,000} \times 5
\]
Abortion rates and ratios

Comparable rates to those mentioned above can also be calculated for abortions rather than births. In this way we can calculate age-specific abortion rates (ASAR, Equation 4), the teenage abortion rate (TnAR, Equation 5) and the total abortion rate (TAR, Equation 6).

**Equation 4**

$$\text{ASAR} = \frac{\text{Number of abortions to women aged } x}{\text{Number of women aged } x} \times 1000$$

**Equation 5**

$$\text{TnAR} = \frac{\text{Number of abortions to women aged } < 20}{\text{Number of women aged } 15-19} \times 1000$$

**Equation 6**

$$\text{TAR} = \frac{(\sum \text{ASAR})}{1,000} \times 5$$

Other abortion measures include the abortion proportion (AP, Equation 7) and the abortion ratio (AR, Equation 8). The AP is simply the proportion of pregnancies (abortions and confinements) that were terminated. To control for multiple births, confinements are used rather than births. The abortion proportion, then, results in a slight underestimate, as it does not take into account pregnancies that result in spontaneous abortion or stillbirth.

**Equation 7**

$$\text{AP} = \frac{\text{Abortions}}{\text{Abortions + Confinements}}$$

The AR is related to the AP and is simply the ratio of abortions to confinements. A ratio of 1 would indicate that for every confinement there was one abortion. A ratio of 1.15 would indicate that for every confinement there were 1.15 abortions.

**Equation 8**

$$\text{AR} = \frac{\text{Abortions}}{\text{Confinements}}$$

These measures are used in Chapter 2 to demonstrate the pattern of teenage pregnancy resolution and to examine trends over time. In Chapter 5, the TnAR and the AR are examined for different geographic areas of New South Wales and the Australian Capital...
Survival analysis

Survival (or life-table) analysis is an extremely useful technique for analysing data representing time elapsed between one event and a subsequent event, particularly when the event has not occurred for all respondents (Halli and Rao 1992; Retherford and Choe 1993). If one were to analyse the distribution of age left school of a group of people aged in their 40s, one could reasonably expect that they would all have finished school. A simple frequency distribution would indicate the pattern of school leaving. However, with a school-aged population many respondents may not yet have completed school, and a frequency distribution of age left school would exclude those still at school. Survival analysis takes account of these missing or ‘censored cases’ by calculating and applying probabilities that the event (leaving school) will occur within certain time periods.

Data requirements for survival analysis are date (or age) of event one, date (or age) of event two and the experience of the event (yes or no). Where a person has not experienced the event, their age at event two is considered to be their current age allowing the calculation of probabilities.

In this thesis survival analysis is used to examine age at first sex in Chapter 6 as well as various time-dependent measures surrounding school leaving in Chapter 7.

Logistic regression

As the dependent variable for much of the analysis in this thesis is dichotomous, that is, abortion or motherhood, logistic regression is employed throughout Chapters 5, 7, 8 and 9. Using logistic regression allows for the fitting of an S, or sigmoid, curve rather than a straight line as used in linear regression. It also avoids the possibility of P values being negative or exceeding one (Hosmer and Lemeshow 1989; Retherford and Choe 1993). The logistic model is shown in Equation 9.
Equation 9
\[
\ln\left( \frac{P}{1-P} \right) = b_0 + b_1 X_1 + \ldots + b_k X_k + e
\]

The choice of a case-control design allows for the use of logistic regression. However, the meaning of the \( b_0 \), or constant, is altered meaning that probabilities cannot be calculated from the equation (Schlesselman 1982: 235). However, odds ratios can be calculated and interpreted much as they would be for a cohort study (Schlesselman 1982: 236).

**Factor analysis**

In Chapter 9 of this thesis various psychosocial attributes are analysed. Factor analysis is used to create scales from 5-point attitudinal questions. Factor analysis is a technique used to simplify an often unwieldy set of variables. The idea is to group variables based on the sets of responses provided by the respondents. In this case factor analysis is applied to a set of attitudinal questions. The individual attitudinal questions are grouped based on the response sets. Each group is then used to create a factor score for each respondent based on the underlying dimensions of the attitudes. These factor scores are then used as independent variables in logistic regression. This technique is discussed further in Chapters 7 and 9.

This chapter has outlined the data and methods to be used throughout this thesis. The next chapter draws primarily on data from the 1996 Australian Census to provide a detailed social overview of New South Wales and the Australian Capital Territory, from which respondents were drawn for the YWPS. It then provides some descriptive information on the respondents to the YWPS.